FOUNDATIONS OF
Environmental Law and Policy

Richard L. Revesz

FOUNDATION PRESS

FOUNDATIONS OF ENVIRONMENTAL LAW AND POLICY

By

RICHARD L. REVESZ

Professor of Law
New York University School of Law

New York, New York
FOUNDATION PRESS
1997

COPYRIGHT © 1997 By FOUNDATION PRESS

11 Penn Plaza, Tenth Floor
New York, NY 10001
Phone Toll Free 1-877-888-1330
Fax (212) 760-8705
fdpress.com

All rights reserved

Printed in the United States of America

ISBN 1-56662-996-9

TEXT IS PRINTED ON 10% POST CONSUMER RECYCLED PAPER

PREFACE

This book is designed to introduce students to the major theoretical approaches in the field of environmental law and policy. It can be used as a companion volume to the case materials used in a survey course on environmental law, or as a textbook for law school seminars on environmental law and policy, and for undergraduate and graduate seminars on environmental policy in a variety of disciplines, including government, public policy, forestry, and resources management. The book can also be used for self-study.

The readings are organized in a manner that is quite different from that of traditional environmental law case books. Except for some brief introductory materials, such case books generally devote the bulk of their attention to the major federal environmental law statutes, and discuss theoretical issues, such as the design of regulatory tools for environmental policy, primarily as they relate to problems that arise under these statutes. Thus, for example, marketable permit schemes are introduced in the section on the acid rain provisions of the Clean Air Act; effluent fees are presented in the chapter of the Clean Water Act in connection with taxation approaches in Germany; and the possibility of transmitting incentives through liability rules is raised in the chapter on Superfund. Such an organization, while readily understandable given the way that the field of environmental law developed, is poorly suited for a rigorous analysis of the range of policy instruments and of the factors affecting the choice among these instruments in particular environmental contexts. Similarly. theoretical issues relating to risk assessment, risk management, and federalism are treated in a disjointed manner. This reader, by contrast, attempts to provide a comprehensive treatment of these matters.

This book begins with eight foundational chapters dealing with issues that are central to the design of environmental policy. The next two chapters deal with case studies concerning the Clean Air Act and Superfund. which apply the foundational principles previously developed. The final two chapters deal with the problems of environmental regulation in an international community. The selections have been extensively edited to facilitate accessibility. Each chapter has an introduction that highlights the most important contributions of the readings for the purpose of efficiently directing the attention of students. The chapters end with an extensive set of notes and questions, designed to provide a deeper understanding of the readings, as well as to introduce and critique a broader set of perspectives.

In my four-credit environmental law survey course, I spend the first four and a half weeks on the eight foundational chapters (supplemented by a few relevant cases, such as *Industrial Union Department, AFL-CIO v. American Petroleum Institute*, 448 U.S. 607 (1980), and *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201 (5th Cir. 1991)), Then, I use a case book for the discussion of the individual statutes (supplemented by the two chapters dealing with the Clean Air Act and Superfund). I end the course with one week on the two chapters dealing with international issues. I find that the perspectives acquired from foundational chapters of this reader make it possible to study the statutes at both a deeper level and a quicker pace.

In the case of a seminar, this reader can constitute the main text. Each of the twelve chapters is well suited for a two-hour discussion. For law school seminars, some of the chapters can perhaps be supplemented with one illustrative case or regulatory problem.

Vicki Been gave me important comments on an earlier draft; I also benefited from several conversations with Lewis Komhauser. I am grateful for the able secretarial assistance of Evelyn Palmquist at the New York University School of Law, my home institution; Isabelle Girardi at the Graduate Institute for International Studies in Geneva, Switzerland, where I was a visiting professor during 1994 and 1995; and Thompson Potter at Harvard University Law School, where I am a visiting professor during 1995 and 1996. I am also indebted to the reference librarians at the New York University School of Law, who went well beyond the call of duty in locating the several hundred articles and books that I consulted in choosing the selections in this reader.

I dedicate this book to my children. Joshua, who at age four has made me think more deeply about the case for vegetarianism by repeatedly inquiring at the dinner table whether I am eating dead sheep or dead cow. and Sarah, who, since age one has taken weekly trips to a recycling center with her day care group.

R.L.R.

Cambridge, Mass.
June 1996

此为试读,需要完整PDF请访问: www.ertongbook.com

CONTENTS

The Theoretical Foundations of Environmental Law

The Theoretical Foundations of Environmental Law

I

The Economic Perspective on Environmental Degradation

The readings in this chapter analyze the problem of environmental degradation from an economic perspective. This perspective can be defined by reference to normative, positive, and attitudinal characteristics.

The economic perspective's normative goal is to maximize social welfare—the sum of the private welfare of each individual in a society. Pollution and other forms of environmental degradation are generally a by-product of profitable economic activity. A reduction in pollution is socially advantageous only if it increases the welfare of the victims of pollution by more than it decreases the welfare of those who cause the pollution. Thus, under the economic perspective, there is a socially optimal amount of pollution, and less pollution can be as undesirable as more pollution.

The positive, or descriptive, characteristic of the economic perspective is that it explains the existence of excessive pollution by reference to a divergence between the polluter's private costs and the social costs imposed by its activity. For example, a steel manufacturer's private costs consist of the inputs, such as raw materials, electricity, and labor, that it must purchase. The manufacturer may use other kinds of goods in its production process as well—the air or water to dispose of the by-products of steel production, for example. If the manufacturer is not required to "purchase" these goods, others (either society as a whole or some subset of society, such as the plant's neighbors) will have to bear

此为试读,需要完整PDF请访问: www.ertongbook.com

the costs of the use. The costs are therefore external to the manufacturer, or, in economic parlance, they are "externalities." An economically rational manufacturer makes its production decisions without regard to these social costs, seeking simply to maximize the difference between its private costs and the benefits that it accrues from selling its products.

Finally, the economic perspective's attitudinal characteristic is that it does not view pollution as the result of antisocial action worthy of moral opprobrium. Rather, it sees it as the natural response of rational individuals who seek to further their self-interest.

The readings differ principally in their prescriptions for the design of social mechanisms to control the undesirable aspects of environmental degradation. In particular, they have varying degrees of faith in the beneficial effects of governmental action.

Garrett Hardin's classic article analogizes the problem of pollution to that presented by an open pasture. The problem in this "commons" is that each herder has an incentive to add cattle to the pasture, though the aggregate effect is to render the land unproductive as a result of overgrazing. In a much quoted sentence, Hardin concludes that "[f]reedom in a commons brings ruin to all."

A firm contemplating the discharge of pollution faces the same calculus as the herder, receiving a benefit from adding pollution to an environmental commons, such as an airshed or a river or lake. The aggregate effect of such decisions, however, is to produce an excessive amount of pollution, harming society as a whole. Hardin advocates the use of the coercive powers of government to prevent excessive exploitation of a commons.

Ronald Coase, in an essay that in part earned him the Nobel Prize in Economics, makes four important claims. First, he argues that the problem of pollution is a reciprocal one, which arises because of the simultaneous presence of two parties, for example, a factory that emits fumes and a laundry that is harmed by the presence of these fumes; the problem is not caused solely by the factory. Protecting the laundry by enjoining the fumes imposes harm on the factory, just as protecting the factory by not enjoining its actions imposes harm on the laundry. The relative desirability of these alternative rules depends on a comparison of the harms to the laundry and the factory.

Coase then shows that when a polluter and a pollutee, such as the factory and the laundry, can bargain costlessly, they will reach socially desirable agreements, and that the resulting amount of pollution will be independent of the legal regime. So, if the legal regime enjoins the pollution but the harm to the factory is greater than the harm that the laundry would have suffered in the absence of such an injunction, the parties will enter into a contract under which, in return for a payment, the laundry will agree not to exercise its right to seek an injunction. Conversely, if the legal regime allows the pollution but the resulting

harm to the laundry is greater than the harm that the injunction would impose on the factory, the parties will enter into contract under which, again in return for a payment, the factory agrees not to pollute. Thus regardless of the initial legal rule, bargaining will produce two results: (1) it will lead to the same amount of pollution (the invariance claim); and (2) it will lead to the maximization of social welfare (the efficiency claim).

Coase then shows that these results will not be attained if the costs of bargaining are sufficiently high. If such costs are greater than the benefit that a party can obtain from the bargain, no agreement will take place. Thus, there would be no contractual modification of a rule enjoining the fumes even if the resulting harm to the factory from the injunction were greater than the harm that the laundry would suffer in the absence of the injunction. Similarly, there would be no contractual modification of a rule allowing the fumes even if the resulting harm to the laundry were greater than the harm that the factory would suffer as a result of an injunction. When bargaining costs are high, the choice of legal rule affects both the amount of pollution and the level of social welfare.

The Tragedy of the Commons*

GARRETT HARDIN

The tragedy of the commons develops in this way. Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At this point, the inherent logic of the commons remorselessly generates tragedy.

As a rational being, each herdsman seeks to maximize his gain. Explicitly or implicitly, more or less consciously, he asks, "What is the utility *to me* of adding one more animal to my herd?" This utility has one negative and one positive component.

1. The positive component is a function of the increment of one animal. Since the herdsman receives all the proceeds from the sale of the additional animal, the positive utility is nearly +1.

2. The negative component is a function of the additional overgrazing created by one more animal. Since, however, the effects of overgrazing are shared by all the herdsmen, the negative utility for any particular decision-making herdsman is only a fraction of -1.

* Reprinted with permission of the author and publisher from 162 *Science* 1243 (1968). Copyright © 1968 American Association for the Advancement of Science.

Adding together the component partial utilities, the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another; and another.... But this is the conclusion reached by each and every rational herdsman sharing a commons. Therein is the tragedy. Each man is locked into a system that compels him to increase his heard without limit—in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all....

In an approximate way, the logic of the commons has been understood for a long time, perhaps since the discovery of agriculture or the invention of private property in real estate. But it is understood mostly only in special cases which are not sufficiently generalized. Even at this late date, cattlemen leasing national land on the western ranges demonstrate no more than an ambivalent understanding, in constantly pressuring federal authorities to increase the head count to the point where overgrazing produces erosion and weed-dominance. Likewise, the oceans of the world continue to suffer from the survival of the philosophy of the commons. Maritime nations still respond automatically to the shibboleth of the "freedom of the seas." Professing to believe in the "inexhaustible resources of the oceans," they bring species after species of fish and whales closer to extinction.

The National Parks present another instance of the working out of the tragedy of the commons. At present, they are open to all, without limit. The parks themselves are limited in extent—there is only one Yosemite Valley—whereas population seems to grow without limit. The values that visitors seek in the parks are steadily eroded. Plainly, we must soon cease to treat the parks as commons or they will be of no value to anyone.

What shall we do? We have several options. We might sell them off as private property. We might keep them as public property, but allocate the right to enter them. The allocation might be on the basis of wealth, by the use of an auction system. It might be on the basis of merit, as defined by some agreed-upon standards. It might be by lottery. Or it might be on a first-come, first-served basis, administered to long queues. These, I think, are all the reasonable possibilities. They are all objectionable. But we must choose—or acquiesce in the destruction of the commons that we call our National Parks.

Pollution

In a reverse way, the tragedy of the commons reappears in problems of pollution. Here it is not a question of taking something out of the commons, but of putting something in—sewage, or chemical, radioactive, and heat wastes into water; noxious and dangerous fumes into the air; and distracting and unpleasant advertising signs into the line of sight.

The calculations of utility are much the same as before. The rational man finds that his share of the cost of the wastes he discharges into the commons is less than the cost of purifying his wastes before releasing them. Since this is true for everyone, we are locked into a system of "fouling our own nest," so long as we behave only as independent, rational, free-enterprisers.

The tragedy of the commons as a food basket is averted by private property, or something formally like it. But the air and waters surrounding us cannot readily be fenced, and so the tragedy of the commons as a cesspool must be prevented by different means, by coercive laws or taxing devices that make it cheaper for the polluter to treat his pollutants than to discharge them untreated. We have not progressed as far with the solution of this problem as we have with the first. Indeed, our particular concept of private property, which deters us from exhausting the positive resources of the earth, favors pollution. The owner of a factory on the bank of a stream—whose property extends to the middle of the stream—often has difficulty seeing why it is not his natural right to muddy the waters flowing past his door. The law, always behind the times, requires elaborate stitching and fitting to adapt it to this newly perceived aspect of the commons.

The pollution problem is a consequence of population. It did not much matter how a lonely American frontiersman disposed of his waste. "Flowing water purifies itself every 10 miles," my grandfather used to say, and the myth was near enough to the truth when he was a boy, for there were not too many people. But as population became denser, the natural chemical and biological recycling processes became overloaded, calling for a redefinition of property rights.

How to Legislate Temperance?

Analysis of the pollution problem as a function of population density uncovers a not generally recognized principle of morality, namely: *the morality of an act is a function of the state of the system at the time it is performed.* Using the commons as a cesspool does not harm the general public under frontier conditions, because there is no public; the same behavior in a metropolis is unbearable. A hundred and fifty years ago a plainsman could kill an American bison, cut out only the tongue for his dinner, and discard the rest of the animal. He was not in any important sense being wasteful. Today, with only a few thousand bison left, we would be appalled at such behavior.

In passing, it is worth noting that the morality of an act cannot be determined from a photograph. One does not know whether a man killing an elephant or setting fire to the grassland is harming others until one knows the total system in which his act appears. "One picture is worth a thousand words," said an ancient Chinese; but it may take 10,000 words to validate it. It is as tempting to ecologists as it is to

reformers in general to try to persuade others by way of the photographic shortcut. But the essence of an argument cannot be photographed: it must be presented rationally—in words.

That morality is system-sensitive escaped the attention of most codifiers of ethics in the past. "Thou shalt not . . ." is the form of traditional ethical directives which make no allowance for particular circumstances. The laws of our society follow the pattern of ancient ethics, and therefore are poorly suited to governing a complex, crowded, changeable world. Our epicyclic solution is to augment statutory law with administrative law. Since it is practically impossible to spell out all the conditions under which it is safe to burn trash in the back yard or to run an automobile without smog-control, by law we delegate the details to bureaus. The result is administrative law, which is rightly feared for an ancient reason—*Quis custodiet ipsos custodes*?—"Who shall watch the watchers themselves?" John Adams said that we must have "a government of laws and not men." Bureau administrators, trying to evaluate the morality of acts in the total system, are singularly liable to corruption, producing a government by men, not laws.

Prohibition is easy to legislate (though not necessarily to enforce); but how do we legislate temperance? Experience indicates that it can be accomplished best through the mediation of administrative law. We limit possibilities unnecessarily if we suppose that the sentiment of *Quis custodiet* denies us the use of administrative law. We should rather retain the phrase as a perpetual reminder of fearful dangers we cannot avoid. The great challenge facing us now is to invent the corrective feedbacks that are needed to keep custodians honest. We must find ways to legitimate the needed authority of both the custodians and the corrective feedbacks.

The Problem of Social Cost*

RONALD H. COASE

The Problem to Be Examined

This paper is concerned with those actions of business firms which have harmful effects on others. The standard example is that of a factory the smoke from which has harmful effects on those occupying neighbouring properties. The economic analysis of such a situation has usually proceeded in terms of a divergence between the private and social product of the factory, in which economists have largely followed the treatment of Pigou in *The Economics of Welfare.* The conclusions to which this kind of analysis seems to have led most economists is that it would be desirable to make the owner of the factory liable for the

* R. H. Coase, "The Problem of Social Cost," 3 *Journal of Law and Economics* 1 (1960) (various pages, edited). Reprinted by permission of the University of Chicago Law School *Journal of Law and Economics.*

damage caused to those injured by the smoke, or alternatively, to place a tax on the factory owner varying with the amount of smoke produced and equivalent in money terms to the damage it would cause, or finally, to exclude the factory from residential districts (and presumably from other areas in which the emission of smoke would have harmful effects on others). It is my contention that the suggested courses of action are inappropriate, in that they lead to results which are not necessarily, or even usually, desirable.

The Reciprocal Nature of the Problem

The traditional approach has tended to obscure the nature of the choice that has to be made. The question is commonly thought of as one in which A inflicts harm on B and what has to be decided is: how should we restrain A? But this is wrong. We are dealing with a problem of a reciprocal nature. To avoid the harm to B would inflict harm on A. The real question that has to be decided is: should A be allowed to harm B or should B be allowed to harm A? The problem is to avoid the more serious harm. I instanced in my previous article the case of a confectioner the noise and vibrations from whose machinery disturbed a doctor in his work. To avoid harming the doctor would inflict harm on the confectioner. The problem posed by this case was essentially whether it was worth while, as a result of restricting the methods of production which could be used by the confectioner, to secure more doctoring at the cost of a reduced supply of confectionery products. Another example is afforded by the problem of straying cattle which destroy crops on neighbouring land. If it is inevitable that some cattle will stray, an increase in the supply of meat can only be obtained at the expense of a decrease in the supply of crops. The nature of the choice is clear: meat or crops. What answer should be given is, of course, not clear unless we know the value of what is obtained as well as the value of what is sacrificed to obtain it. To give another example, Professor George J. Stigler instances the contamination of a stream. If we assume that the harmful effect of the pollution is that it kills the fish, the question to be decided is: is the value of the fish lost greater or less than the value of the product which the contamination of the stream makes possible....

The Pricing System with Liability for Damage

I propose to start my analysis by examining a case in which most economists would presumably agree that the problem would be solved in a completely satisfactory manner: when the damaging business has to pay for all damage caused *and* the pricing system works smoothly (strictly this means that the operation of a pricing system is without cost).

A good example of the problem under discussion is afforded by the case of straying cattle which destroy crops growing on neighbouring land. Let us suppose that a farmer and a cattle-raiser are operating on

此为试读,需要完整PDF请访问: www.ertongbook.com